

## **REMARKS**

Claims 1-11 are pending in the application and stand rejected. With this Amendment After Final, Claim 1 is amended to address a formal rejection. Upon entry of the amendments, Claims 1-11 remain pending.

### **CONSIDERATION AFTER FINAL REJECTION**

Consideration after final rejection is proper because the amendments and remarks place the claims in an allowable condition, or at least in better condition for appeal. The amendments remove a rejection under 35 U.S.C. § 112 and place the claims in better condition for appeal. The remarks address the insufficiency of the *prima facie* case of obviousness, and require no further examination. Further and favorable consideration is solicited.

### **REJECTION UNDER 35 U.S.C. § 112**

Claim 1 stands rejected under 35 U.S.C. § 112, second paragraph, as being indefinite. In response, Applicants have amended the claim to address the vagueness referred to on pages 3 and 4 of the Office Action. Applicants respectfully request entry of the amendment and submit that the amendment is sufficient to overcome the rejection under 35 U.S.C. § 112. Accordingly, Applicants respectfully request the rejection be withdrawn.

### **REJECTION UNDER 35 U.S.C. § 103**

The previous rejection of Claims 1-11 as obvious over the Hosokawa reference is being maintained. Applicants submit that the rejection of the claims under 35 U.S.C. § 103(a) is improper. Accordingly, Applicants respectfully traverse the rejection and request that it be withdrawn.

Claims to chemical compounds are obvious in light of a reference disclosing other chemical compounds only if the invention as a whole as reflected in the claims would have been obvious to a person of skill in the art upon reading the reference. In the case of chemical compounds, the invention as a whole includes both the structure and the properties of the compounds. In an unpredictable art area such as the chemical

arts, care must be taken not to use the disclosure of the novel compounds as a road map for piecing together various teachings from the prior art to arrive at those claims.

The Hosokawa reference does not disclose close structural analogs of the claimed compounds. The side chains in the Hosokawa compounds differ greatly from those in the claims. Further, the reference does not indicate that modifying the structure of those compounds would lead to compounds - such as those claimed - that have usefulness in treating diseases caused by trypanosoma. Instead, the compounds of the reference are taught to be useful as hypolipodemic and hypoglycemic agents. There is no teaching at all that the compounds are useful for treating trypanosomiasis or have any effect at all against other protozoa.

In the light of this teaching, Applicants have discovered that certain claimed compounds represented by formulas 1 and 2 containing certain side chain  $R^4$  groups not suggested in the reference are useful as therapeutic agents for sleeping sickness and other diseases. The invention as a whole reflected in the current claims would not have been obvious to a person of ordinary skill.

In light of the large structural difference between the claimed compounds and those of the reference, and in view of the unexpected finding that the claimed compounds have therapeutic uses not suggested in the reference, Applicants respectfully submit that the claims are non-obvious in light of the reference.

In characterizing and applying the reference, the Final Rejection contains statements that upon closer consideration rest on unsupported objective and scientific grounds. Applicants urge consideration of the following remarks regarding that characterization.

First, the Office Action states that the Hosokawa reference teaches that benzene compounds with polar substituents are important for retention of biological activity, and side chains attached to the benzene ring do not adversely affect the biological properties. See Final Rejection, page 3, first three lines. In response, Applicants respectfully submit that the reference does not contain the alleged teaching about the side chains. If it is intended to maintain the rejection, the Office is requested to particularly point out the alleged teaching from the reference.

Next, the Office Action states the "major portion" of the claimed compounds and the prior art compounds are the same, the difference amounting to deletion of structural elements furanone and cyclohexanone from the compounds of Hosokawa et al. See Serial No. 10/575,653

Final Rejection, page 3, lines 7-10. As discussed, the structural differences are in fact large, amounting to completely removing organic groups taught as critical for the activity of the prior art compounds. It is considered that the modified compounds differ in steric hindrance, structure activity relationship, and in other ways, based on the unpredictable nature of the chemical arts. There is especially no suggestion in the prior art that any such modification would lead to compounds with the same therapeutic effectiveness. Still less does the prior art suggest the invention as a whole, which includes the feature that the claimed compounds are useful in anti-parasite therapy.

For these reasons, Applicants respectfully request that the rejection under 35 U.S.C. § 103(a) be withdrawn.

### **CONCLUSION**

For the reasons discussed above, Applicants believe that claims 1-11 are in an allowable condition and respectfully request an early Notice of Allowance. With even date, Applicants have filed a Notice of Appeal and a Request for Pre-Appeal Brief Review, fulfilling Applicants' obligation to respond to the outstanding Office Action before the six-month statutory period runs. If the rejections are not removed as the result of this after-final amendment, Applicants respectfully request an Advisory Action stating whether the amendments can be entered and the remarks considered at this time. Applicants also request that any rejections maintained after considering the amendment after final be addressed in the Pre-Appeal Brief Review conference, which Applicants have requested separately.

Applicants greatly appreciate the consideration given by the Examiner. If the Examiner believes that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at (248) 641-1600.

Respectfully submitted,

Dated: June 3, 2009

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